

Application Number: 10/561,705  
Reply Dated: December 16, 2009  
Office Action Dated: June 16, 2009

### **REMARKS**

This amendment is responsive to the Office Action dated June 16, 2009 for which a three (3) month period of response was given. A Petition and fee for a three (3) month extension of time accompany this paper. Also enclosed herewith are the fees necessary in view of the additional new claims presented herein. Should an additional extension of time and/or any further additional claim fees be due, the Commissioner is hereby authorized to treat this paper as a Petition for any needed extension of time and to charge any fees due to Deposit Account No. 50-0959, Attorney Docket No. 089498.0482.

Claims 1 through 20 are pending in the present application. Claims 1, 2, 5 through 8, 13 and 16 through 19 have been amended to more clearly state that nature of the present invention. Support for the amendments to claims 1, 2, 5 through 8, 13 and 16 through 19 exists in the specification as filed. New claims 20 through 30 have been added. Support for new claims 20 through 30 exists in the specification as filed. Accordingly, no new matter has been added. As such, entry and consideration of the amendments to the claims, the new claims, and the new title is believed due and is respectfully requested.

#### **I. Claim Objections:**

The claims have been objected to due to duplicate claim 16. Given this objection the second claim 16 and original claims 17 and 18 have been renumbered claims 17 through 19.

Accordingly, in light of the renumbering of original claims 16 (the second one) through 18 to claims 17 through 19, the objection to the claims has been rendered moot, and withdrawal thereof is believed due and is respectfully requested.

#### **II. The 35 U.S.C. § 112, Second Paragraph, Rejections:**

Properly numbered claims 1 through 19 have been rejected under 35 U.S.C. § 112, second paragraph, as indefinite. Specifically, the Examiner contends that the term "polycycloolefin" is misused due to the number of repeating cycloolefin blocks in each of the one or more arms can be 1 in certain embodiments.

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Given the above, claims 1 through 19 have been amended, where applicable, to include the language “cycloolefin or polycycloolefin” to accurately cover the situation where the number of units of the cycloolefin structure is equal to 1. Accordingly, in light of the amendments made, where applicable, to claims 1 through 19, the 35 U.S.C. § 112, second paragraph, rejection of claims 1 through 19 has been rendered moot, and withdrawal thereof is believed due and is respectfully requested.

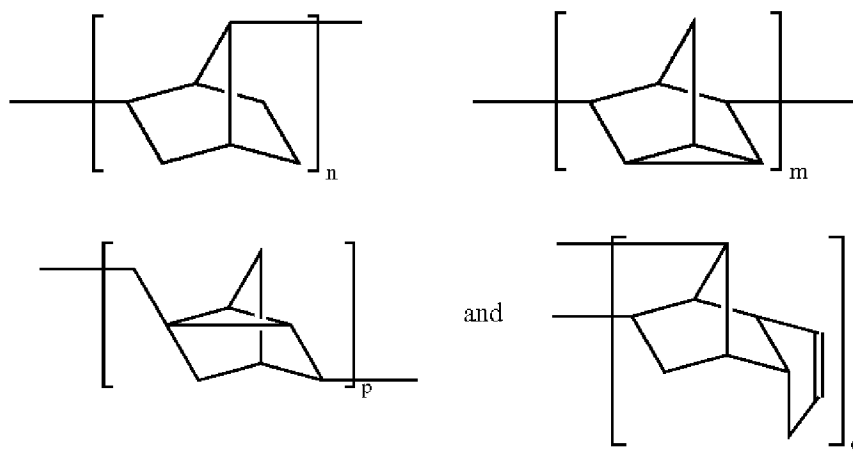
Regarding the 35 U.S.C. § 112, second paragraph, rejection of renumbered claims 17 through 19 as referring to a product obtain by the process of original claim 11. This issue has been corrected as renumbered claims 17 through 19 now depend from claim 12.

Accordingly, in light of the amendments made to renumbered claims 17 through 19, the additional 35 U.S.C. § 112, second paragraph, rejection of claims 17 through 19 has been rendered moot, and withdrawal thereof is believed due and is respectfully requested.

### III. The 35 U.S.C. § 102(b) Rejections:

Claims 1 through 5, 7, 9 through 12 and 14 through 19 have been rejected under 35 U.S.C. § 102(b) over EP 0 949 282 (hereinafter EP ‘282). EP ‘282 discloses a process for producing an isobutylene block copolymer, which comprises performing cationic polymerization of a monomer component containing isobutylene as a major monomer and a monomer component whose major monomer is not isobutylene in the presence of an initiator, wherein the polymerization is carried out in a mixed solvent containing a monohalogenated hydrocarbon solvent and a non-halogenated hydrocarbon solvent, the monohalogenated hydrocarbon solvent containing a primary monohalogenated hydrocarbon having three to eight carbon atoms and/or a secondary monohalogenated hydrocarbon having three to eight carbon atoms, the non-halogenated hydrocarbon solvent containing an aliphatic hydrocarbon and/or an aromatic hydrocarbon.

However, EP '282 does not disclose, teach or suggest a multi-arm star block copolymer comprising: an aromatic core having one or more arms extending therefrom; wherein each of the one or more arms are formed from a polyisobutylene segment and a cycloolefin or polycycloolefin segment, wherein the polyisobutylene segment and the cycloolefin or polycycloolefin segment form a repeating unit multiblock copolymer, wherein the cycloolefin or polycycloolefin segment is selected from one or more of the following formulas:

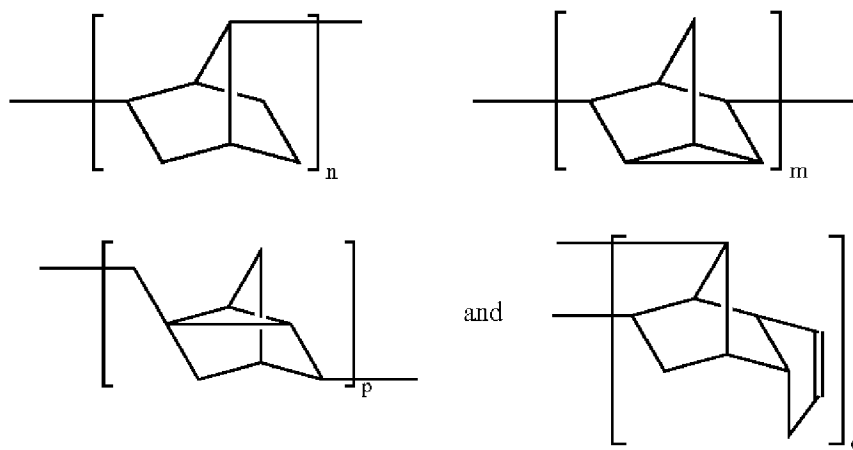


wherein n, m, p and q are all independently-selected integers that are at least 1 (emphasis supplied). Additionally, EP '282 does not disclose, teach or suggest a method of preparing a composition of matter, where the process comprises, among other steps, providing a bifunctional aromatic core.

Since EP '282 fails to disclose, teach or suggest each and every feature of pending claims 1 and 12, EP '282 cannot anticipate, or render obvious, claims 1 through 5, 7, 9 through 12 and 14 through 19. As such, withdrawal of the 35 U.S.C. § 102(b) rejection of claims 1 through 5, 7, 9 through 12 and 14 through 19 over EP '282 is believed due and is respectfully requested.

Claims 1, 7, 9 through 12 and 15 through 19 have been rejected under 35 U.S.C. § 102(b) over Kennedy et al. (United States Patent No. 5,804,664). Kennedy et al. discloses the synthesis and characterization of novel linear polymers and multi-arm star polymers comprising polyisobutylene arms connected to a well-defined calixarene core are described. As is known to those of skill in the art calixarene is tri-functional and at least one functionality is attached via a linking oxygen atom.

However, Kennedy et al. does not disclose, teach or suggest a multi-arm star block copolymer comprising: an aromatic core having one or more arms extending therefrom; wherein each of the one or more arms are formed from a polyisobutylene segment and a cycloolefin or polycycloolefin segment, wherein the polyisobutylene segment and the cycloolefin or polycycloolefin segment form a repeating unit multiblock copolymer, wherein the cycloolefin or polycycloolefin segment is selected from one or more of the following formulas:



wherein n, m, p and q are all independently-selected integers that are at least 1 (emphasis supplied). Additionally, Kennedy et al. does not disclose, teach or suggest a method of preparing a composition of matter, where the process comprises, among other steps, providing a bifunctional aromatic core.

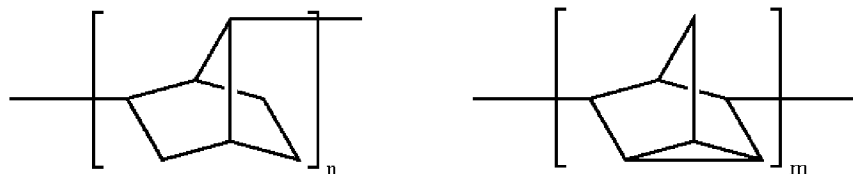
Since Kennedy et al. fails to disclose, teach or suggest each and every feature of pending claims 1 and 12, Kennedy et al. cannot anticipate, or render obvious, claims 1, 7, 9 through 12 and 15 through 19. As such, withdrawal of the 35 U.S.C. § 102(b) rejection of claims 1, 7, 9 through 12 and 15 through 19 over Kennedy et al. is believed due and is respectfully requested.

Regarding new claims 20 through 30, neither EP '282 nor Kennedy et al. disclose, teach or suggest the subject matter of new claim 20. A such, new claims 20 through 30 are novel and non-obvious over EP '282 and Kennedy et al.

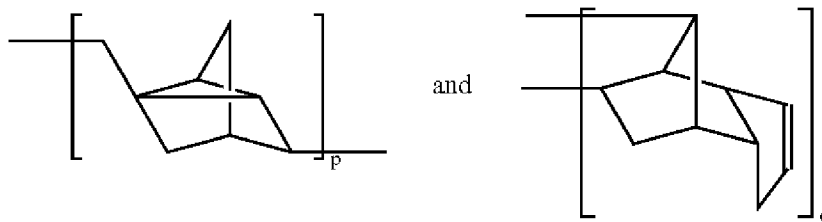
#### IV. The 35 U.S.C. § 103(a) Rejection:

Claims 6, 8 and 13 have been rejected under 35 U.S.C. § 103(a) over EP 0 949 282 (hereinafter EP '282). The teachings and shortcomings of EP '282 are discussed in detail above.

As noted above, EP '282 does not disclose, teach or suggest a multi-arm star block copolymer comprising: an aromatic core having one or more arms extending therefrom; wherein each of the one or more arms are formed from a polyisobutylene segment and a cycloolefin or polycycloolefin segment, wherein the polyisobutylene segment and the cycloolefin or polycycloolefin segment form a repeating unit multiblock copolymer, wherein the cycloolefin or polycycloolefin segment is selected from one or more of the following formulas:



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wherein n, m, p and q are all independently-selected integers that are at least 1 (emphasis supplied). Additionally, EP '282 does not disclose, teach or suggest a method of preparing a composition of matter, where the process comprises, among other steps, providing a bifunctional aromatic core.

Since EP '282 fails to disclose, teach or suggest each and every feature of pending claims 1 and 12, EP '282 cannot render obvious claims 6, 8 and 13. As such, withdrawal of the 35 U.S.C. § 103(a) rejection of claims 6, 8 and 13 over EP '282 is believed due and is respectfully requested.

V. Conclusion:

Accordingly, reconsideration and withdrawal of the pending 35 U.S.C. § 112, second paragraph, rejections, the 35 U.S.C. § 102(b) rejections, and the 35 U.S.C. § 103(a) rejection of claims 1 through 19 are believed due and is respectfully requested.

For at least the foregoing reasons, claims 1 through 30 of the present application are believed to be in condition for allowance, and a Notice of Allowance is respectfully requested.

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Should the Examiner wish to discuss any of the foregoing in more detail, the undersigned attorney would welcome a telephone call.

Respectfully submitted,

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